TESTIMONY

OF

KENNETH B. KEELS, JR.

FOR

DUKE POWER COMPANY

SCPSC DOCKET NO. 94-615-E

Q. PLEASE STATE YOUR NAME, BUSINESS ADDRESS AND POSITION WITH DUKE POWER COMPANY.

A. My name is Kenneth B. Keels, Jr. and my business address is 422 South Church Street, Charlotte, North Carolina 28242. My position with Duke Power Company is Non-Utility Generation Manager in the Resource Acquisition Department.

Q. PLEASE SUMMARIZE YOUR EDUCATIONAL BACKGROUND AND EXPERIENCE.

A. I graduated from Duke University in 1977 with a Bachelor of Science degree in Electrical Engineering. In 1982, I received a Master of Business Administration from Duke University. I began my employment with Duke Power Company in June of 1977 as a distribution engineer in the Durham, North Carolina area. Since that time I have held a variety of positions at Duke in commercial/industrial engineering and marketing, bulk power marketing, and system planning and operating. During my career at Duke, I have worked directly and indirectly with Duke's customers, with Duke marketing representatives and other Duke departments, and with consultants, trade associations, contractors, engineers, developers, equipment vendors, and professional organizations on issues such as service reliability and power quality, special projects and service installations, sales and technical training, cogeneration and small power production facilities and demand side management. I have been primarily responsible for Duke's activities with non-utility generators since 1987. I am a registered professional engineer in North Carolina and South Carolina.

Q. PLEASE DESCRIBE YOUR CURRENT JOB RESPONSIBILITIES.

A. I currently manage Duke's activities involving non-utility generators. As I have indicated in my previous appearances before the Commission in earlier avoided cost proceedings such as this, I am Duke's primary contact for information regarding non-utility generation. I also provide information and assistance on all aspects of non-utility generation, including technical, operational, policy and regulatory matters, to other Duke departments and to interested parties outside Duke. I am responsible for establishing, implementing and monitoring Duke's policies and procedures associated with purchasing power from non-utility generators and for ensuring such policies and procedures are consistent with integrated resource planning rules and principles and comply with applicable state and federal regulatory requirements. I administer the purchased power contracts between Duke and non-utility generators which sell power to Duke and I lead negotiations with prospective non-utility power producers.

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. The purpose of my testimony is to describe the Purchased Power Agreement ("Agreement") between Duke Power Company ("Duke") and Cherokee County Cogeneration Partners, L.P. ("Cherokee") and to provide an overview of the negotiations leading to the Agreement. I will highlight key contractual provisions which benefit Duke's customers and I will compare the rates negotiated under the Agreement with Duke's avoided cost projections. Finally, I will explain how the Agreement is consistent with the Public Utility Regulatory Policies Act of 1978 ("PURPA"), the South Carolina Public Service Commission's orders and regulations pertinent to qualifying facilities ("QFs") under PURPA and Duke's Integrated Resource Plan ("IRP").

Q. PLEASE DESCRIBE THE ELECTRIC GENERATING FACILITY PROPOSED BY CHEROKEE TO WHICH THE AGREEMENT PERTAINS.

A. If the Agreement is approved, Cherokee will construct, own and operate an 80 MW gas-fired cogeneration facility located in Cherokee County, South Carolina (the "Facility"). The Facility will produce steam for process use by an adjacent manufacturing industry to be built and owned by Cherokee. In such event, the Facility will be a QF under PURPA as a cogeneration facility meeting the ownership, efficiency and operating standards set forth in the PURPA regulations promulgated by the Federal Energy Regulatory Commission ("FERC").

Q. WHY HAS DUKE ENTERED INTO THIS AGREEMENT WITH CHEROKEE TO PURCHASE CAPACITY AND ENERGY FROM THE FACILITY?

A. PURPA requires utilities to purchase capacity and energy from QFs. The Commission, in previous orders implementing PURPA has encouraged utilities in South Carolina to negotiate in good faith with QFs. Duke and Cherokee have negotiated rates and contract terms under the Agreement which comply with PURPA and with Commission orders.

Q. PLEASE DESCRIBE THE AGREEMENT BETWEEN DUKE AND CHEROKEE?

A. The Agreement was executed by Duke and Cherokee on August 26, 1994, culminating nearly two years of negotiations between the parties. The term of the Agreement is fifteen (15) years, beginning on the Commercial Operations Date, which is expected to be November 1, 1996. The Agreement calls for Cherokee to deliver and sell to Duke, and for Duke to accept and purchase, all of the net output of the Facility. The Capacity Commitment, or firm capacity, of the Facility is 72,700 kilowatts. Energy and Capacity rates are set forth in the Agreement for each year of contract term. Such rates are twenty-four percent (24%) lower, on a net present value ("NPV") basis than projections of avoided capacity and energy costs estimated by Duke at the time of the rate negotiations between Duke and Cherokee. Payments will be made on a cents per kilowatthour (¢/kwh) basis, similar to the payment format of other QF contracts currently in effect in South Carolina and North Carolina.

Q. PLEASE REVIEW THE BACKGROUND OF NEGOTIATIONS LEADING TO THE AGREEMENT.

A. Cherokee's President, John C. Hooker, first contacted me in September 1992 to discuss his proposal for an 80 MW QF to be located in Duke's service area. After a number of discussions between Duke and Cherokee on rates and contract terms, and a decision by Cherokee to focus on a site in South Carolina, in April 1993 Duke and Cherokee agreed on a proposed 15-year, levelized rate which was approximately ten percent (10%) below Duke's then-projected avoided cost (based on Duke's 1990 filing in North Carolina Utilities Commission ("NCUC") Docket No. E-100, Sub 59, Order dated September 10, 1991).

In July 1993, Duke and Cherokee had negotiated and resolved most major contract terms and Duke submitted a draft contract to Cherokee. Also in July 1993, the NCUC approved new avoided cost rates for QFs in North Carolina. Since Duke had utilized the NCUC-filed avoided cost projections as the basis for development of Cherokee's rate, Duke and Cherokee agreed to revise the Cherokee proposed rates to reflect the more recent avoided cost projections. The new projections were higher than the 1990 projections, however, Duke and Cherokee agreed to "split the difference" in the increase, such that Duke's customers would benefit from the negotiated rates to be paid to Cherokee. The resulting revised Cherokee rate was twenty-four percent (24%) lower than Duke's 1992 projections of avoided cost. In September 1993, Cherokee determined that it would prefer a non-levelized rate to the levelized rate which had been agreed to by the parties in July 1993. The second draft contract was submitted to Cherokee in late September 1993. This second draft reflected a non-levelized rate with the same 15-year net present value as the previously agreed upon levelized rate. The September 1993 draft contract also included some minor revisions to the terms and conditions of the contract. In October 1993, Duke and Cherokee agreed to a 5-year extension option at rates which would be fifteen percent (15%) below Duke's actual avoided costs at the time of the extension. After several months of additional discussions between Duke and Cherokee regarding specifics of the proposed Facility and after additional refinement of the contract terms and conditions, Duke submitted a formal contract proposal to Cherokee on August 12, 1994 with an expiration date of August 23, 1994. Cherokee executed and returned the Agreement to Duke prior to the expiration and the Agreement was executed by Duke on August 26, 1994.

Q. PLEASE SUMMARIZE THE KEY PROVISIONS OF THE CHEROKEE AGREEMENT.

A. Capacity Commitment

Cherokee has committed to provide 72,700 kilowatts of firm capacity during On-Peak Hours of On-Peak Months throughout the term of the Agreement. Failure to deliver the committed capacity will result in a reduction in capacity payments made to Cherokee, and payment by Cherokee of liquidated damages for the detrimental effect of the capacity reduction on Duke's cost of power.

Liquidated Damages

In the event of an early termination of the Cherokee Agreement or a reduction in capacity available from the Cherokee Facility, Liquidated Damages provide a means for Duke to obtain funds for replacement power. The amounts Cherokee is required to pay in the event of such early termination or capacity reduction are stated in the Agreement in Appendix B.

Security

Cherokee is required to post Security in the form of a letter-of-credit in amounts sufficient to cover the Liquidated Damages in the event of an early termination or capacity reduction. Security in the form of a letter-of-credit insures that funds are available and provides access to funds for Duke. Other forms of security do not meet these criteria. Cherokee is also required to post Security in increasing amounts at various project development Milestones to insure that the project reaches Commercial Operation at the expected date. Cherokee has already posted a letter-of-credit in the amount of $363,500 pending approval of the Agreement by the Commission. Cherokee is required to increase the level of security to $727,000 within 30 days of approval of the Agreement. The amount of Security required to be posted by Cherokee increases throughout the term of the Agreement.

Milestones

The Agreement contains several Milestones which Cherokee must meet to insure that the Facility comes on line as expected. Cherokee must commence construction of the Facility by a certain date and much achieve Commercial Operation by a certain date. Additionally, increases in the level of Security required are tied to Milestones. Failure to achieve a Milestone is a default of the Agreement and Cherokee would be required to pay Liquidated Damages and the Agreement is subject to termination under certain conditions.

Notice Provisions

Cherokee must notify Duke forty-five (45) months prior to the expiration of the term of the Agreement if it intends to continue generating electricity at the Facility. This notice period provides adequate lead time for Duke to plan for and acquire replacement capacity if Cherokee does not plan to continue producing power. If Cherokee does plan to continue generating after the initial term, the notice provision enables Duke to defer future capacity by continuing to include Cherokee's capacity in Duke's Integrated Resource Plan.

Five-Year Extension Option

Cherokee has a one-time option to extend the Agreement for an additional five (5) years beyond the expiration of the initial term. Cherokee must provide Duke with forty-five (45) months notice of its intent to exercise the extension option and the rates applicable during the extension term will be fifteen percent (15%) below Duke's then-current cost of capacity and energy, determined by Duke in each year of the extension term.

<u>"Regulatory Out"</u>

If Duke is unable to obtain or is denied recovery of the costs it incurs for power purchases under the Cherokee Agreement, the rates payable to Cherokee under the Agreement may be reduced to the level for which recovery is allowed. This provision protects Duke's owners from bearing the risk of disallowance of costs for a project on which Duke's owners receive no return.

<u>Extended Forced Outage</u>

The Agreement provides for a one-time Extended Forced Outage under which an extended period (up to eighteen (18) months) of suspended performance by Cherokee is allowed without default in the event of a major equipment failure at the Facility. In order to initiate the Extended Forced Outage, Cherokee must pay Duke fifteen percent (15%) of the then applicable Liquidated Damages Rate, specified in dollars per kW of capacity reduction, for the detrimental effect of the capacity reduction on Duke's cost of power.

<u>Dispatch</u>

The Cherokee Facility will generally operate at full output during the On-Peak Hours. The output will be reduced by approximately 25% during Off-Peak Hours to enable Duke to take advantage of other available Duke resources with low off-peak energy costs. During emergency conditions, Cherokee will increase or decrease the output of the Facility at the request of Duke's System Coordinators.

Q. PLEASE EXPLAIN HOW THESE KEY PROVISIONS BENEFIT DUKE'S CUSTOMERS.

A. The terms and conditions of the Agreement between Duke and Cherokee, in particular those highlighted above, have been carefully negotiated by Duke to benefit and protect its customers while complying with the requirements of PURPA and this Commission's orders implementing PURPA. The key contract provisions discussed above are designed to insure the continued reliability, availability and cost-effectiveness of the Cherokee Facility throughout the term of the Agreement. The Liquidated Damages and Security provisions protect Duke's customers from financial loss in the event of Cherokee's failure to deliver the committed capacity and energy throughout the term of the Agreement. The Capacity Commitment, combined with the Liquidated Damages, Milestone and Security provisions of the Agreement, allows Duke to more effectively rely on the capacity from Cherokee in its Integrated Resource Plan. The 5-Year Extension Option assures Duke's customers of low cost power if the Agreement is extended. The Dispatch provisions enable Duke's System Coordinators to effectively integrate the Cherokee Facility into Duke's generating resource mix.

Q. PLEASE DISCUSS THE RATES CONTAINED IN THE CHEROKEE AGREEMENT AND HOW THEY COMPARE WITH DUKE'S AVOIDED COST PROJECTIONS USED IN NEGOTIATIONS WITH CHEROKEE.

A. Exhibit KBK-1 is a table showing the capacity and energy rates for each year of the Agreement ("Cherokee Rate") and the expected annual payments to Cherokee, based on the expected output of the Cherokee Facility. Exhibit KBK-1 also compares the Cherokee rate to Duke's 1992 avoided cost projections from NCUC Docket No. E-100, Sub 66 ("1992 Avoided Cost"). The NCUC-filed data has been modified to reflect adjustments approved by this Commission in previous avoided cost proceedings. The methodology approved by this Commission for determination of avoided capacity and energy costs is the same as the methodology approved by the NCUC.

On Page 3 of Exhibit KBK-1, a summary of the comparison indicates that the Cherokee Rate, on an NPV basis, is twenty-four percent (24%) below the avoided cost projections used at the time the Agreement was negotiated and executed (the 1992 Avoided Cost). The comparison of the Cherokee Rate to the 1992 Avoided Cost is based on the years 1996-2007, because 2007 is the last year for which Duke had projections in the 1992 filing.

Q. HOW IS THE AGREEMENT CONSISTENT WITH PURPA?

A. The Cherokee Facility, as proposed, will be a QF as a cogeneration facility. FERC Regulations implementing PURPA ("PURPA Regs") require electric utilities to interconnect with and purchase capacity and energy made available from QFs at the utility's avoided cost. (18 CFR §292.101 and 18 CFR §292.301-304) PURPA Regs allow for the use of estimates of future avoided costs to establish purchase rates for long-term contracts with QFs. (18 CFR §292.304(b)(5) and 18 CFR §292.304(d)) The PURPA Regs provide for negotation between a utility and a QF to establish rates which differ from the utility's avoided cost. (18 CFR §292.301(b)) If a utility purchases capacity and energy from a QF at the exact avoided cost instead of generating itself or purchasing from another source a like amount of capacity and energy, the utility's customers realize no savings nor do the customers incur any additional cost. However, to the extent that the utility and the QF can agree to rates which are lower than the utility's avoided cost, the utility's customers benefit from lower cost power.

Q. HOW IS THE AGREEMENT CONSISTENT WITH PREVIOUS COMMISSION ORDERS PERTAINING TO QFs?

A. In previous orders implementing PURPA in Docket 80-251-E, the Commission has "encouraged [utilities] to negotiate in good faith with QFs to reach voluntary agreements for the purchase of electric energy." (Order No. 85-347, p. 34 and 37; Order No. 89-56, p. 15) In its Order No. 85-347 in Docket No. 80-251-E, the Commission ordered that "negotiated agreements shall, upon execution, be submitted to the Commission for the Commission's review to determine whether the terms comply with the provisions of this Order and with the intent of PURPA..." (Order No. 85-347, p. 39)

Q. HOW IS THE AGREEMENT CONSISTENT WITH DUKE'S INTEGRATED RESOURCE PLAN?

A. Duke's Integrated Resource Plan, approved by the Commission in Docket No. 92-208-E, Order No. 93-8, dated January 25, 1993, discussed how purchased resources, including PURPA-mandated purchases from QFs such as the Cherokee Facility, are incorporated into Duke's IRP. Section 8 of the 1992 IRP describes Duke's purchased resource planning process. Duke's subsequent IRP filings - the Short Term Action Plan ("STAP") updates of 1993 and 1994, Duke also discuss how QFs are incorporated into Duke's IRP.

In Duke's process, power purchases from QFs smaller than 80 MW arising out of negotiated contracts are included in the integrated resource planning process as Firm Purchased Capacity once contracts are executed and approved. The Cherokee Agreement is based on the avoided cost rates approved in July 1993 by the NCUC, adjusted in accordance with the South Carolina Commission's orders regarding QFs and avoided cost. The negotiated rates and contract terms of the Cherokee Agreement provide greater benefits to Duke's customers relative to the standard, commission-approved rates and contract terms.

Q. WHAT IS DUKE'S OVERALL EVALUATION OF THE CHEROKEE AGREEMENT?

A. As discussed above, Duke believes that the Cherokee Agreement is consistent with PURPA, the Commission's orders implementing PURPA, and with Duke's IRP as approved by the Commission. The Agreement contains certain contract terms and conditions which benefit Duke's customers. The rates set forth in the Agreement are lower than avoided cost projections estimated at the time the rate package was being negotiated and agreed upon by Duke and Cherokee. Duke established a deadline of August 23, 1994 for execution of the Agreement by Cherokee, and on the use of the then-current avoided cost projections in purchased power agreements, because Duke anticipated filing lower avoided cost projections in September 1994. Cherokee complied with this deadline. However, the avoided cost projections recently filed by Duke are lower than the rates contained in the Cherokee Agreement.

Q. DOES THIS CONCLUDE YOUR TESTIMONY?

A. Yes.

Cherokee Cogeneration Facility – Rate Comparison

ON–PEAK MONTHS' CAPACITY CREDIT

A	B	C	D	E	F	G
	Cherokee Annual kWh	Cherokee Rate	'92 Avoided Cost		Annual Pmt Cherokee Rate	Annual Pmt '92 Avoided Cost
1996	132,000,000	2.02	1.61		$2,666,400	$2,125,200
1997	211,200,000	2.15	1.70		$4,540,800	$3,590,400
1998	211,200,000	2.28	1.80		$4,815,360	$3,801,600
1999	211,200,000	2.42	1.90		$5,111,040	$4,012,800
2000	211,200,000	2.57	2.01		$5,427,840	$4,245,120
2001	211,200,000	2.73	2.12		$5,765,760	$4,477,440
2002	211,200,000	2.90	2.24		$6,124,800	$4,730,880
2003	211,200,000	3.08	2.37		$6,504,960	$5,005,440
2004	211,200,000	3.27	2.51		$6,906,240	$5,301,120
2005	211,200,000	3.47	2.65		$7,328,640	$5,596,800
2006	211,200,000	3.69	2.80		$7,793,280	$5,913,600
2007	211,200,000	3.92	2.96		$8,279,040	$6,251,520
2008	211,200,000	4.16	n/a		$8,785,920	n/a
2009	211,200,000	4.42	n/a		$9,335,040	n/a
2010	211,200,000	4.42	n/a		$9,335,040	n/a
2011	79,200,000	4.42	n/a		$3,500,640	n/a

OFF–PEAK MONTHS' CAPACITY CREDIT

A	B	C	D	E	F	G
	Cherokee Annual kWh	Cherokee Rate	'92 Avoided Cost		Annual Pmt Cherokee Rate	Annual Pmt '92 Avoided Cost
1996	51,000,000	0.46	0.36		$234,600	$183,600
1997	102,000,000	0.49	0.38		$499,800	$387,600
1998	102,000,000	0.52	0.40		$530,400	$408,000
1999	102,000,000	0.55	0.42		$561,000	$428,400
2000	102,000,000	0.59	0.45		$601,800	$459,000
2001	102,000,000	0.62	0.47		$632,400	$479,400
2002	102,000,000	0.66	0.50		$673,200	$510,000
2003	102,000,000	0.70	0.53		$714,000	$540,600
2004	102,000,000	0.74	0.56		$754,800	$571,200
2005	102,000,000	0.79	0.59		$805,800	$601,800
2006	102,000,000	0.84	0.63		$856,800	$642,600
2007	102,000,000	0.89	0.66		$907,800	$673,200
2008	102,000,000	0.95	n/a		$969,000	n/a
2009	102,000,000	1.01	n/a		$1,030,200	n/a
2010	102,000,000	1.01	n/a		$1,030,200	n/a
2011	51,000,000	1.01	n/a		$515,100	n/a

Cherokee Cogeneration Facility – Rate Comparison

ON–PEAK ENERGY CREDIT

A	B	C	D	E	F	G
	Cherokee Annual kWh	Cherokee Rate	'92 Avoided Cost		Annual Pmt Cherokee Rate	Annual Pmt '92 Avoided Cost
1996	183,000,000	2.53	3.49		$4,629,900	$6,386,700
1997	313,200,000	2.73	3.38		$8,550,360	$10,586,160
1998	313,200,000	2.95	4.67		$9,239,400	$14,626,440
1999	313,200,000	3.19	5.13		$9,991,080	$16,067,160
2000	313,200,000	3.45	4.75		$10,805,400	$14,877,000
2001	313,200,000	3.73	4.73		$11,682,360	$14,814,360
2002	313,200,000	4.04	5.92		$12,653,280	$18,541,440
2003	313,200,000	4.36	7.31		$13,655,520	$22,894,920
2004	313,200,000	4.72	9.17		$14,783,040	$28,720,440
2005	313,200,000	5.10	9.48		$15,973,200	$29,691,360
2006	313,200,000	5.52	10.34		$17,288,640	$32,384,880
2007	313,200,000	5.96	9.16		$18,666,720	$28,689,120
2008	313,200,000	6.45	n/a		$20,201,400	n/a
2009	313,200,000	6.97	n/a		$21,830,040	n/a
2010	313,200,000	6.97	n/a		$21,830,040	n/a
2011	130,200,000	6.97	n/a		$9,074,940	n/a

OFF–PEAK ENERGY CREDIT

A	B	C	D	E	F	G
	Cherokee Annual kWh	Cherokee Rate	'92 Avoided Cost		Annual Pmt Cherokee Rate	Annual Pmt '92 Avoided Cost
1996	133,700,000	1.83	2.27		$2,446,710	$3,034,990
1997	229,200,000	1.95	2.20		$4,469,400	$5,042,400
1998	229,200,000	2.09	2.91		$4,790,280	$6,669,720
1999	229,200,000	2.23	3.31		$5,111,160	$7,586,520
2000	229,200,000	2.39	3.02		$5,477,880	$6,921,840
2001	229,200,000	2.56	2.85		$5,867,520	$6,532,200
2002	229,200,000	2.73	3.36		$6,257,160	$7,701,120
2003	229,200,000	2.92	4.16		$6,692,640	$9,534,720
2004	229,200,000	3.13	5.57		$7,173,960	$12,766,440
2005	229,200,000	3.34	5.78		$7,655,280	$13,247,760
2006	229,200,000	3.58	5.98		$8,205,360	$13,706,160
2007	229,200,000	3.82	5.20		$8,755,440	$11,918,400
2008	229,200,000	4.09	n/a		$9,374,280	n/a
2009	229,200,000	4.37	n/a		$10,016,040	n/a
2010	229,200,000	4.37	n/a		$10,016,040	n/a
2011	95,500,000	4.37	n/a		$4,173,350	n/a

Cherokee Cogeneration Facility – Rate Comparison

TOTAL PAYMENTS

A	B	C	D	E	F	G
	Cherokee Annual kWh	Avg Rate Cherokee Rate	Avg Rate '92 Avoided Cost		Annual Pmt Cherokee Rate	Annual Pmt '92 Avoided Cost
1996	316,700,000	3.15	3.70		$9,977,610	$11,730,490
1997	542,400,000	3.33	3.61		$18,060,360	$19,606,560
1998	542,400,000	3.57	4.70		$19,375,440	$25,505,760
1999	542,400,000	3.83	5.18		$20,774,280	$28,094,880
2000	542,400,000	4.11	4.89		$22,312,920	$26,502,960
2001	542,400,000	4.42	4.85		$23,948,040	$26,303,400
2002	542,400,000	4.74	5.80		$25,708,440	$31,483,440
2003	542,400,000	5.08	7.00		$27,567,120	$37,975,680
2004	542,400,000	5.46	8.73		$29,618,040	$47,359,200
2005	542,400,000	5.86	9.06		$31,762,920	$49,137,720
2006	542,400,000	6.30	9.71		$34,144,080	$52,647,240
2007	542,400,000	6.75	8.76		$36,609,000	$47,532,240
2008	542,400,000	7.25	n/a		$39,330,600	n/a
2009	542,400,000	7.78	n/a		$42,211,320	n/a
2010	542,400,000	7.78	n/a		$42,211,320	n/a
2011	225,700,000	7.65	n/a		$17,264,030	n/a
			Total Payments '96–'07:		$299,858,250	$403,879,570
			Total Payments '96–'11:		$440,875,520	n/a
			NPV @ 8.63%, '96–'07:		$167,701,895	$220,976,170
			NPV @ 8.63%, '96–'11:		$211,144,355	n/a